GASOLINE

Also known as: Gas, Motor Spirit, Motor Fuel, Petrol, Essence
Chemical reference number (CAS): 8006-61-9

WHAT IS GASOLINE?

Gasoline is a mixture of about 150 chemicals refined from crude oil. It's usually a colorless, light brown or pink liquid. Gasoline is used in cars, boats, motorcycles, lawn mowers and other engines. Gasoline usually contains additives affecting the way it burns (A separate chemical fact sheet is available for MTBE, an additive used to reduce air pollution). **Gasoline is a powerful fuel for engines and a dangerous explosive!**

Gasoline evaporates quickly when exposed to air. Most gasoline spilled in lakes, streams or soil evaporates. Some spilled gasoline can seep into groundwater and remain unchanged for years. Private wells located near a spill or a buried leaking tank may become contaminated. Scientists refer to gasoline components that mix with water as gasoline range organics (GRO).

HOW ARE PEOPLE EXPOSED TO GASOLINE?

Breathing: Exposure occurs when people breathe gasoline vapors while filling gas tanks. Exposure may also occur when using contaminated water to bathe or do laundry. Some people intentionally inhale gasoline vapors to get "high."

Drinking/Eating: Low level exposure can occur when contaminated water is used for drinking or preparing food.

Touching: Some ingredients in gasoline can pass through the skin when used as a cleaner or accidentally spilled on skin or clothing. People can also be exposed when handling contaminated soil or water.

DO STANDARDS EXIST FOR REGULATING GASOLINE?

Water: Although no standard exists for gasoline in drinking water, there are standards for some of the chemicals that make up gasoline's mixture. The standard for **benzene (**2% of the gasoline mixture) is 5 parts per billion (ppb), **ethyl benzene** is 700 ppb, **toluene** is 1.0 part per million (ppm), and **xylene** is 10 ppm. We suggest you *stop drinking or cooking with water* containing any chemical above the standard, if you can smell a gasoline odor or see a oily sheen. If the chemicals occur at very high levels in your drinking water, you should avoid washing, bathing or using the water for other purposes.

Air: Most people can smell gasoline at levels as low as 0.25 ppm. No standards exist for the amount of gasoline-related chemicals allowed in the air of homes. We use a formula to convert established workplace limits to suggested home limits. Based on the formula, we recommend levels of gasoline in air be no higher than 6 ppm. To prevent irritation and health effects to the nervous system, we suggest you *store gasoline outside of your home.* This also reduces fire hazards and the amount of vapors entering your home.

Gasoline vapors are heavier than air, so dangerous levels can build up in basements and in other low areas where its stored indoors. An explosion is possible if the vapors are lit by a spark or flame, such as the pilot light in a water heater, stove or furnace.

WILL EXPOSURE TO GASOLINE RESULT IN HARMFUL HEALTH EFFECTS?

Immediately or shortly after breathing a high amount of gasoline, a person may experience nose or lung irritation, feel dizzy or have a headache. When swallowed, gasoline will cause stomach irritation. Drinking gasoline or inhaling concentrated vapors can result in death.

The following health effects can occur after several years of exposure to low levels of gasoline in air or in water:

Organ Systems: People can experience damaged nervous system or lungs.

Cancer: There is no evidence that exposure to gasoline causes cancer in humans. However, long-term exposure to high levels of benzene, a component of gasoline, may increase a person's risk of leukemia.

Reproductive Effects: There is not enough information available to determine if exposure to gasoline causes birth defects.

In general, chemicals affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person.

A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It is also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

IS THERE A MEDICAL TEST TO TELL IF SOMEONE HAS BEEN EXPOSED TO GASOLINE?

The chemicals in gasoline are quickly flushed from the body. Although some can be measured in exhaled breath, urine, blood, and other tissues, these tests may not be helpful in predicting health effects. Your doctor can use function tests of your lungs, nervous system and heart to evaluate the effects of gasoline exposure.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to occupational exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-815-8855
- Your local public health agency
- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: http://www.dhfs.state.wi.us/eh

Prepared by the
Wisconsin Department of Health and Family Services
Division of Public Health with funds from the
Agency for Toxic Substances and Disease Registry,
Public Health Service,
U.S. Department of Health and Human Services.

(POH 4757 *Revised* 12/2000)